Healthcare Analytics in Navy Medicine
Perspectives and Methods for Decision-Making

FOCUS ON REFERRALS

Health Care Coordination and the Referral Process in the MHS

LCDR Benjamin Parks and Bryce Mendez, MPH

All High Reliability Organizations (HROs) and highly managed health delivery plans balance the challenges of using limited time with finite administrative resources to successfully complete the phases of the referral process in a timely and accurate manner. Effective referral management plays a key role in supporting cost-effective utilization management, access to care, continuity of care, and improved patient outcomes. A breakdown in any of the steps can cause delayed treatments or diagnosis, duplication of testing, or polypharmacy. Further, inaccurate or incomplete referral management can result in inappropriate and unjustified billing of patients, resulting poor patient satisfaction and degraded patient experience.

What Is A Referral?

A referral is the formal request for transition of a patient to a more appropriate point of care. It is not necessarily a communication between referring and referred-to providers. Instead, it is most frequently a notification request to an authorization agent that they should accept and fund the transfer of a patient to a more specialized and, perhaps, more expensive provider.

The requisite medical information in a referral is not necessarily information ideal for optimal patient care, but rather, the medical documentation required for a successful pre-authorization. Other communication channels are often necessary for direct patient hand-offs in the transfer of the patient, such as direct sharing of radiology scans and phone dialogue between providers. In the MHS, referrals are processed for in-network providers in purchased care, as well as within and between Military Treatment Facilities (MTFs). For care transferred within a MTF, patient information in AHLTA and Essentris is typically sufficient and often exceeds what is required to allow verification of medical necessity and compliance with booking protocols. However, if care is being referred to the network, then a series of standard data elements is reviewed by MTF staff and transmitted to the network authorization agent for review and approval.

For network care, the referral is used to initiate the authorization process with an insurance company. For the MHS these authorization agents are currently Humana, Healthnet, or United Healthcare (i.e., TRICARE Managed Care Support Contracts (MCSCs)), depending on the MTF's region. When an authorization agent receives a referral, accounts are established to receive billing for the care, and coordination takes place so that the patient will not receive a bill for services which are covered. Referrals are also used when patients require Durable Medical Equipment, where documentation is required to authorize the purchase of those items.

Referrals are also used for direct care MTF referrals between primary and specialty care providers. In these instances, the referral is used to produce an internal utilization review where the patient is checked for eligibility and the care is vetted for being covered in the TRICARE health plan. Those referrals are also verified against a capability and capacity table to ensure the MTF accepting the care has the required medical resource and can meet access to care requirements.

IN THIS ISSUE

Volume 7 • Issue 1

The Referral Process in the Military Health System (MHS)

The MHS and Navy MTFs essentially function as a Health Maintenance Organization (HMO) for TRICARE Prime enrollees. Serving as a gate-keeper, an MTF manages patient demand for non-emergency specialty care services by requiring a patient to first seek non-emergent medical care with the Primary Care Manager (PCM) when access to care expectations are met. When specialty care is needed, the PCM initiates a referral which is sent to an MTF's Referral Management Coordination Office (RMCO). At that point the referral request reaches its first administrative hurdle. An MTF must "disposition" the referral. In this context, the term disposition is specific to the MTF taking action on a referral to either accept the care at the MTF or send it to the authorization agent (the insurance companies that are TRICARE MCSCs).

The next step, which applies only to network referrals, is the "authorization". The term authorization is specific to the context of the authorization agent (i.e., MCSC) both receiving the referral request and notifying the MTF RMCO that sufficient documentation has been supplied for the request to be accepted and processed. The MTF RMCO continues to track all referral requests until the MCSC provides a reply that the referral has been authorized and is successfully approved. At that point, the MCSC notifies the patient that they may seek specialty care in the network for the referred care.

Under 32 CFR 199.17, TRICARE only has a legal obligation to provide referrals for the enrolled (e.g., TRICARE Prime) population, so the above referral process does not apply to the Standard, TRICARE Plus, TRICARE Extra, or the dual-enrolled (e.g., TRICARE for Life) population. However, providers at MTFs may also use the referral process for patients who are not in TRICARE Prime if they plan on seeing the patient again and wish to receive a Clear and Legible Reports (CLRs) from the "referred-to" provider (e.g., specialist).

Another uniqueness of the MHS referral process is the application of Right of First Refusal (ROFR) for Prime enrolled patients seen in the network. Internal to the MHS, this category of referral is simply called a "ROFR" and is specific to two frequently occurring scenarios. The first is a patient who lives outside the primary care 30-minute drive time from an MTF but lives inside the drive time radius for specialty care. If the patient elects to be a "Prime" beneficiary, they are enrolled to a PCM in the network, but the MTF has a "ROFR" opportunity to recover all specialty care from that network beneficiary. The second is a patient who is enrolled to the MTF but for some reason is seeking specialty care in the network (i.e., patient showed up at a civilian Emergency Department with a non-emergent need for surgery offered at the MTF to which they are enrolled). The MCSC is required to offer the MTF a ROFR for this type of specialty care as well.

Closing of referrals is a process tracked by RMCO as well. In all cases, the RMCO completes network care coordination by providing a notification to the referring provider that the referral has been closed according to the following categories: patient seen and paperwork received; patient seen with no paperwork received; or referral unused by patient. After a RMCO is complete with closing and all used referrals complete with paperwork, several other steps are required to compete care coordination. To complete the closure process, a claims database is utilized by RMCO staff to identify all open referrals without a claim, which are then marked for closure as unused. For open referrals with a patient visit and no CLR, a paperwork recapture notification process is initiated with the network provider.

Reliable and accurate referral data can answer many business and utilization questions. For example, ROFR opportunities are an often targeted at the MTF patient population for additional specialty care work. Being able to track the type of care being referred to the network, enables MTFs to examine demand across specialties and better evaluate what care can be recaptured to maximize in house productivity while also evaluating the cost of the care in purchased care and direct care.

In the MHS, the referral process, supported by the RMCOs, ensures authorizations are processed in a timely manner, rejected referrals are addressed for correction, and medical documentation is returned to the patient record. As the RMCO at the MTF processes referrals for both direct care and the network, it provides the MTF through the ROFR with a disposition resource for keeping care needed to maximize its in-house capacity and capabilities while limiting leakage to the network. Ensuring appropriate volume of care for MTF providers is key to patient safety and quality of care, as well as readiness. The next evolution of the referral process will be the switch to the new Electronic Health Record (EHR), where the RMCOs will utilize MHS GENESIS as it comes online in FY 2017.

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SKILLS & METHODS

— THE REFERRAL PROCESS

This section describes the Referral Management System (RMS) and highlights some measures currently used by the MHS to monitor aspects of the referral process.

MHS Referral Management System (RMS)

To successfully carry out the key phases of the referral process in the MHS, the Referral Management System utilizes an established framework to provide continuous, well-coordinate care. The Referral Management Program at Navy MTFs oversee and process referrals for specialty care within an MTF, between MTFs, to a TRICARE Network provider, and manages Right of First Refusal (ROFR) requests. If the MTF cannot fulfill the referral (e.g., due to capacity), then it is sent to the network via a system called Referral Management System (RMS) by an office called the Referral Management Coordination Office (RMCO). The goals of the program include ensuring referral requests are handled in a timely and accurate manner, minimizing the negative impacts to patient experience and accurate closing of referral request episodes with medical documentation, also known as Clear and Legible Reports (CLRs). All referral requests originating at an MTF are tracked in a system called RMS 3.1. This system is a part of the Carepoint Healthcare Application Suite (CHAS) and the license for use is inclusive of all MHS staff. Included in RMS is a data set and series of reports that can be valuable to any MTF operations analyst on the issues of purchased care recapture, utilization management, patient experience, and care coordination. With the new Referral file in M2, M2 users can also track these issues as the feeds from CHCS now include information for appointed and un-appointed referrals, and with the addition of the Unique Identifying Number (UIN) field, MTFs can track referrals to the purchased care network that resulted in a claim.

The key measures for application at a management level, which will be explored below, are "Days from Referral Written Until Booked", Percent Information Needed Status", "Referral Closure Rate", and "Network Referral CLR Recapture Rate", and "ROFR Recapture Volume".

Monitoring Performance of the Referral Process

Due to the multi-step nature of the referral process, there are a number of stages that can be analyzed to evaluate successful outcomes. One of key ways to evaluate referrals is tracking the average days from referral to booking. Survey data from the Joint Outpatient Experience Survey indicates that a patient is asked to call back due to lack of appointment availability as frequently as 10 percent of the time across the MHS. Most MTF provider schedules are built out six weeks in advance. If a patient is trying to book an appointment and none are available, it is very easy for a clinic booking clerk to request that the patient call back another day, when the next week of appointments are made available. This behavior is problematic and can lead to a situation where demand exceeds supply in perpetuity and growing wait-times become a larger and more complex issue. This activity results in a false, low demand signal for appointments and hidden lists of patients unofficially waiting for care often develop. If 100 patients are not able to get appointment each week, and they call back every Monday for a first-come, first-serve appointment, they will not be accounted for under any "average days" to appointment (e.g., routine, specialty, acute) metrics produced in M2 or TRICARE Operations Center (TOC) reports. To evaluate true demand, MTFs have to rely on a combination of qualitative feedback from clinics, patient survey responses in combination with access to care metrics, such as the third-next available appointment metric produced by the TOC.

Another useful measure for MTF staff is the "Info Needed" percentage of MTF referrals. Any referral that is delayed in administrative process will have a status update of "Info needed" present in the referral history. For any MTF or specialty, RMS data allows RMCOs to compare facility clinics on the percentage of referrals delays for this reason.

Once a PCM requests a referral in CHCS for a patient, there are a number of process steps that can be monitored for efficiency and completion. First, the MTF has 24 hours in which to "disposition" the appointment. If the MTF takes longer to evaluate its ability to take the appointment, then the time between when the referral is requested and met will be stretched. In the MHS, the RMCO tracks the status of enrolled patient referrals, and that data can be mined to determine what percentage of referrals meet the recorded categories of patient seen and paperwork received, patient seen with no paperwork received, or referral unused by patient. As RMCO also tracks the delivery of CLRs, it can report on that process measure as well.

It is important to differentiate the "referral process" from the broader scope of care coordination and utilization

management. The decision on whether or not to make a referral varies across providers and diagnostic categories. For example, lumbago (e.g., low back pain) is one of the most commonly seen diagnoses in the MHS. Yet, providers differ greatly in their use of MRI referrals to confirm the condition, despite clear guidelines set by National Committees for Quality Assurance (NCQA)'s on waiting periods, which are tracked by Health Effectiveness Data and Information Set (HEDIS) measures. The referral management process reflects the decisions of these providers, and seeks to execute those decisions efficiently and accurately.

DATA AND INFORMATION SYSTEMS

UNDERSTANDING REFERRAL DATA

This section describes the referral data fields and files in the MDR and M2 and how these data are used to assess MTF referrals.

Fields in Referral Data

MHS referral data have existed within the MDR and M2 for many years, and the MDR currently contains referral information back to FY 2006. CHCS sends all referral data to the MDR on a weekly basis; more recently the referral data have been enhanced to show not just appointed referrals within the same CHCS host but also the un-appointed referrals and referrals sent to the purchased care network. The referral records within the MDR/M2 now describe referrals that occur within MTFs, from MTF to MTF, and between MTFs and the purchased care network. Each record represents a referral order; however, not all referrals actually result in a future appointment or encounter.

There are many common fields in the referral data (Figure 1), including Patient IDs, Beneficiary Category, Geography, Service Dates, Demographics, DMIS IDs ('referred from' and 'referred to'), and National Provider IDs (NPI). Several new fields have recently been added to enhance the usefulness of the referral data including the Network Referral Indicator and the UIN (Unique Identifying Number). The UIN is the key field for directly linking MTF referrals to TEDNI claims, which will be discussed more below.

Figure 1. Key Referral Fields (M2)

Patient EDIPN	Network Referral Indicator
Referring MTF	# Visits Authorized
Referring MEPRS Code	Referral Begin Date
Referring Provider NPI	Referral End Date
Referral Number	Appointment ID #
Appointment Type	Referred to MTF
Access to Care Category	Referred to MEPRS Code
Unique Identifying Number (UIN)	

Records in Referral Data

A high level record count query of the M2 referral data is shown in Figure 2. The significant differences across FYs highlight a few caveats that users should be aware of. In FY2011 M2 only contains referral records that resulted in a booked appointment. The large increase in records from FY2012 forward is due to a recent change in the CHCS feeds to the MDR to now contain all referral types, including those that did not result in a booked appointment.

MTF Booked Referrals

When an MTF has the specialty available (and capacity) for which a referral is needed, the appointment is booked at the MTF because the MTF has the Right of First Refusal (ROFR). Upon booking an appointment associated with the referral, the CHCS referral file is updated to include the appointment ID number (Appointment IEN) of each associated appointment. This linkage is only available

Figure 2. M2 Referral Record Counts FY2011-FY2017

FY	Number of Referrals	Number of Appointed Referrals
2011	5,455,643	5,455,643
2012	9,180,063	5,564,192
2013	8,929,585	5,367,140
2014	8,499,398	4,994,893
2015	8,421,246	3,693,473
2016	8,389,601	4,151,265
2017	6,026,577	3,102,428

if the referring and treating MTF are both on the same CHCS host server. Once the appointment actually occurs, the documented encounter record (CAPER) is also tagged with the Referring Provider NPI, Referral Number, and Referring DMIS ID to make these types of referrals much easier to identify in M2. Note how the Record ID on the referral table is the same as the Referral Number on the CAPER in Figure 3.

MTF-to-Network Referrals

When the MTF does not have the specialty or capacity to fulfill a referral within the access standards, the patient is referred to the network. Referrals are required for Prime enrollees when "non-primary" care is needed. The referral file contains referrals for both Prime and non-Prime beneficiaries, so the data have to be filtered to the appropriate population (e.g., Prime), where TRICARE is legally obligated to meet specified access standards. While referrals will be seen in the data for non-Prime (e.g., Plus) patients, they do not need a referral to go to the network, and the provider has written a referral only so that they can obtain the Clear and Legible Report (CLR) of the care provided during the referral. There are some exceptions to the referral requirements but they are very limited. The TRICARE Operations Manual 6010.56-M (Chapter 8, Section 5) describes the requirements that an MTF must fulfill in order to refer a patient to the network.

Until recently, there has been no way to directly link referral records in the MDR/M2 that were deferred to the network to their related purchased care claims in the TEDNI data. A recent MDR development project now enables the linking of an MTF referral to the network claims that result from the referral. The project required collaboration among the Referral Management Steering Group, TRICARE Regions North, South, and West, the TRICARE Operations Center, and the MDR project team. The UIN field has been added to the MDR and M2 referral data, as well as to the TEDI and TEDNI claims data to make the linkage easier for analysts. The new fields are accurately populated from January 2015 to present. Prior to CY2015, the best method for identifying MTF-to-Network referrals is through the Referring MEPRS = 'FCC' value.

Linking Referrals to TEDNI claims

The UIN field is the key field used to directly link an MTF referral to its related TEDNI network claims (Figure 4). If a referral is sent to the network, it can only be tracked if it results in a claim (i.e., M2 does not contain information about un-appointed referrals to the network). The UIN is a required field to be associated with all network referred claims, and its structure is defined in the TRICARE Operations Manual as "(DMIS-YYMMDD-XXXXX); the UIN is the DMIS ID (of the referring facility) - Date in format indicated - Consult Order Number from CHCS". Unfortunately, the UIN field is not currently included on the TED claim feeds to the MDR/M2. Instead, each TRICARE regional contractor is providing the MDR with a UIN to TED Claim Number mapping table. The UIN mapping tables are available for regions North and South from FY 2012 forward, and for Region West from February 2015 forward.

Figure 4. Sample UINs from M2

UIN	Referral Date
0052-160701-00410	07/01/2016
0052-160701-00650	07/01/2016
0052-160701-04907	07/01/2016
0052-160702-01747	07/02/2016
0052-160704-00383	07/04/2016
0052-160705-00445	07/05/2016

Figure 3. CAPER Encounters Resulting from an MTF Referral (M2)

Referral Data

Record ID	20160394921
Associated Record ID	16137815
Referring MTF	NH PENSACOLA
Pseudo Person ID	12382#####
Referral Start Date	10/5/2016
Referral End Date	12/5/2016
Number of Visits Authorized	3
Appointment Type	SPEC
MEPRS3 Code Referred to	BEA
Referring Provider ID	1235####

CAPER Encounter Data

Referral Number	20160394921
Record ID (Appt IEN)	16137815
Treatment MTF	NH PENSACOLA
Pseudo Person ID	12382#####
Encounter Date	11/17/2016
Procedure 1	20550
Procedure 2	29125
Diagnosis 1	727.04
MEPRS3 Code	BEA
Provider ID, Referring	1235####

The UIN-to-TED mapping table from the South region is significantly larger than either the North or West tables. This is because the South regional contractor is linking all TEDNI claims associated with an MTF referral, whereas the other two regions are only linking the very first claim in order to satisfy access to care requirements.

MDR processors utilize the mapping tables to add the UIN and several other referral related fields to the TEDNI and TEDI data. This allows MDR/M2 analysts to quickly perform the following types of analyses:

Figure 5 shows a simple example (mock data) of how analysts can now easily determine, from the TEDNI claims records, which MTF provider referred the patient to the network through the linking UIN field.

In this example, the MTF referral had one authorized visit that ended up generating 5 claim line items for $7,649. The patient was referred from NH Jacksonville from the Cardiology clinic (BAC). The Access to Care category is "Specialty", and in this instance the Access Standard of receiving care in under 28 days was met.

With the UIN mapping table from the MCSC and increased visibility of appointed and un-appointed referrals in direct care, MTFs now have more visibility and can better track care continuity of their patients.

Figure 5. Linked Referrals and Claims

Referral Data

Referring DMIS ID	0039
Referring DMIS ID Name	NH JACKSONVILLE
Referring Provider ID	JONESFR
Referring Clinic	BAC
Referral Start Date	01/29/2016
Number of Visits Authorized	1
Access to Care Category	Specialty
ACV Group	Prime
MEPRS3 Code Referred To	EBB
UIN	0039-160129-04324

TED-NI Claims

Claim Number	CPT	Date Of Care	Amount Paid	UIN	Referring MTF	Referring Provider ID
#####5105001	A4604	02/06/2016	$44.62	0039-160129-04324	0039	JONESFR
#####5105002	A7030	02/06/2016	$105.14	0039-160129-04324	0039	JONESFR
#####5105003	A7035	02/06/2016	$25.14	0039-160129-04324	0039	JONESFR
#####5105004	E0471	02/06/2016	$7,298.40	0039-160129-04324	0039	JONESFR
#####5105005	E0562	02/06/2016	$176.45	0039-160129-04324	0039	JONESFR
			$7,649.75			

NEW KNOWLEDGE

– NOTED PUBLICATIONS

Physician referrals and the associated coordination of care play a central role in health care systems and are important determinants of health care quality and spending in the U.S. Given that changes in care patterns may influence rising health care costs, as referrals to specialists may lead to increased use of higher-cost services, it is important to understand national trends in physician referrals over time. The two articles summarized in this section provide a more in-depth look at the referral process and offer possible explanations for observed referral trends in the U.S.

Trends in Physician Referrals in the US, 1999–2009.

Barnett ML, Song Z, and Landon BE. Arch Intern Med. 2012 Jan 23; 172(2): 163–170.

Using a nationwide ambulatory visit dataset[1], the authors found that the percentage and absolute number of ambulatory visits resulting in a physician referral in the U.S. significantly increased from 1999 to 2009. Over this 10-year period, the probability that an ambulatory visit to a physician resulted in a referral increased by 92 percent (from 4.83 percent to 9.29 percent, $p<0.001$) and the absolute number of visits resulting in referral increased 159 percent nationally (from 40.6 million to 105 million). These trends were consistent across primary care and specialty physicians, as well as office-based and outpatient-department based physicians.

1 Based on survey-weighted estimates of the total number and percentage of visits resulting in a referral to another physician across several patient and physician characteristics from a nationally representative sample of 845,243 ambulatory patient visits from the National Ambulatory Medical Care Surveys 1993–2009.

While changes in referral rates varied according to the principal symptoms accounting for patients' visits, with significant increases noted for visits to primary care physicians with cardiovascular, gastrointestinal, and ear/nose/throat complaints, the authors noted that the overall increase did not appear to be predominantly driven by a particular patient demographic with more demand for referrals. Instead, several explanations for the increase in referral rates were posed. These included the increasing complexity of care, physician demands (resulting in less time to address patient issues), and availability of specialist physicians, as well as economic incentives.

Read more about this publication at https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3568395/.

Dropping the Baton: Specialty Referrals in the United States

Mehrotra A, Forrest CB, and Lin CY. The Milbank Quarterly. 2011; 89(1): 39–68.

The authors reviewed prior literature on the three main components of the specialty-referral process: referral decision making, care coordination (e.g., information transfer), and access to specialty care. Through their literature review, they found evidence of breakdowns and inefficiencies in all of these components, which allowed them to raise several current problems with the referral process. The article emphasized broad themes and limitations of existing literature. To gain a better understanding of the referral process, it challenged future work to examine the appropriateness of referrals and look at both over- and under-referrals, review the many components of the referral process and care coordination, and expand across settings.

Read more about this publication at https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3160594/.

TIPS AND TRICKS

– DISPLAYING TRENDS IN M2

Using the Referral file in MHS Mart (M2), this article will describe how to create a crosstab to examine network and non-network referrals at Navy Health Clinic (NHC) New England and use the 'Turn To' option to graph network and non-network referrals by fiscal month for FY 2012 forward.

In M2 users can select data from the universe, and after selecting 'Run Query', the data are retrieved from the data repository into their report where it can be saved to the user's desktop or to 'My Favorites' in Infoview. Users can also create various tables such as crosstabs (e.g., pivot tables) to examine the data or to display trends and convert these crosstabs into graphs using the 'Turn To' option.

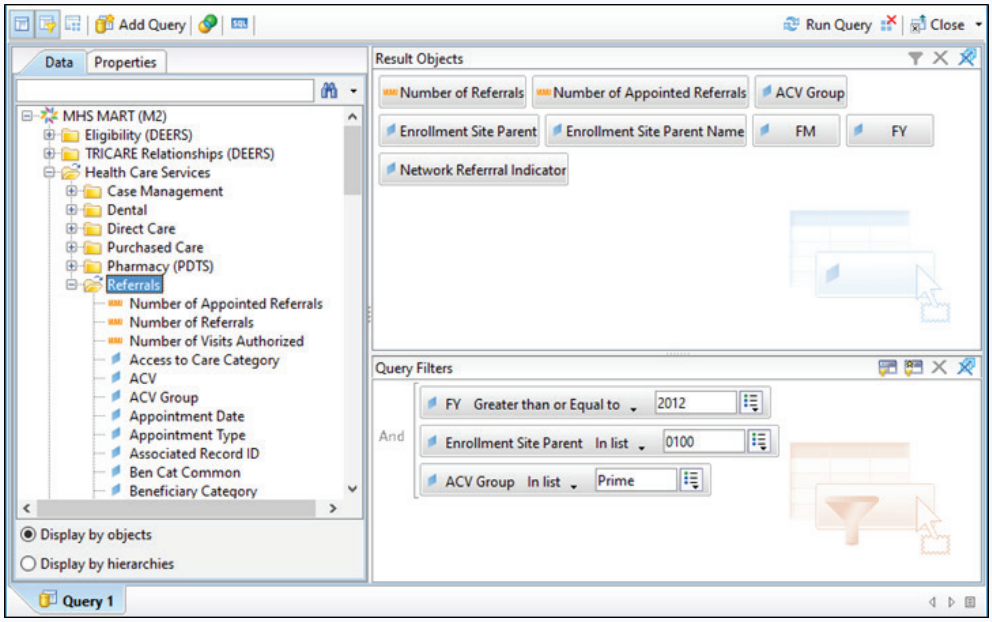
EXAMPLE - 'TURN TO' OPTION

The Referrals file in M2 includes the previously available referrals within a CHCS host and the newly visible un-appointed referrals and referrals to the network (e.g., purchased care), creating a much more comprehensive picture of referral practices across MTFs since FY 2015.[1] In the query, select 'Number of Referrals', 'Number of Appointed Referrals', 'ACV Group', 'Enrollment Site Parent (& Name)', 'FY', 'FM', and 'Network Referral Indicator' as the result objects and limit query to 'FY Greater than or Equal to 2012', 'Enrollment Site Parent in list 0100', and 'ACV Group in list Prime' (Figure 6).

1 The Network referrals will be loaded for earlier fiscal years, but as of this date, they are only available FY 2015 forward.

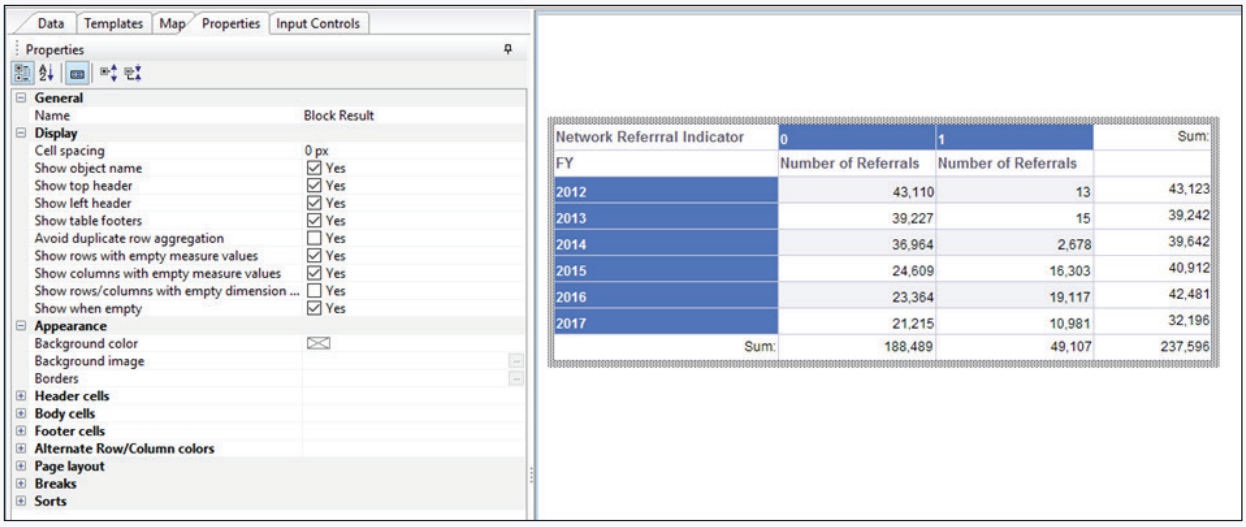
EXAMPLE - 'TURN TO' OPTION

Figure 6. Referrals File Query - Referrals for Prime Enrollees at NHC New England, FY 2012 -2017



After the data are retrieved, right click on the 'Report 1' tab on the bottom of the report, and select 'Insert Report'. From the left hand panel drag over: 'FY', 'Network Referral Indicator', and 'Number of Referrals'. To create a crosstab, where referrals are shown by fiscal year in rows and split by the network indicator in two columns, select the 'Network Referral Indicator' header, and drag it right above the table where a solid blue rectangle should appear spanning the width of the table. Click on the edge of the table so that it has a grey outline around it. In the left panel select the 'Properties' tab and 'Show object name' under 'Display' to add labels (Figure 7).

Figure 7. Crosstab of Number of Referrals by FY and Network Referral Indicator



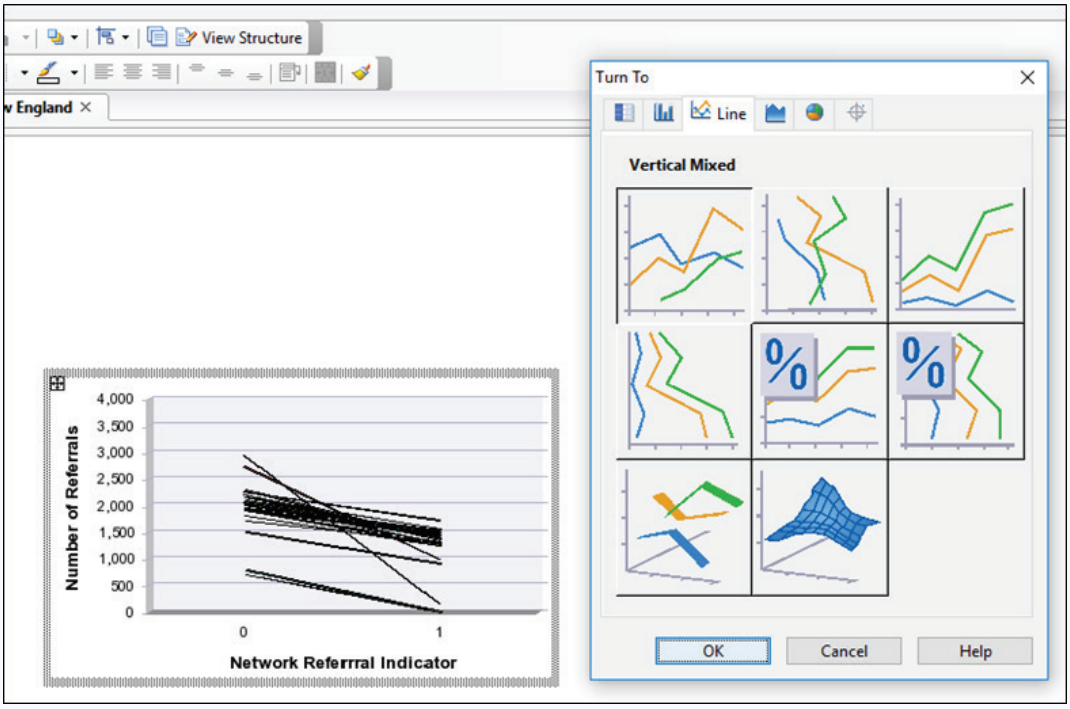
Network Referral Indicator	0	1	Sum:
FY	Number of Referrals	Number of Referrals	
2012	43,110	13	43,123
2013	39,227	15	39,242
2014	36,964	2,678	39,642
2015	24,609	16,303	40,912
2016	23,364	19,117	42,481
2017	21,215	10,981	32,196
Sum:	188,489	49,107	237,596

EXAMPLE - 'TURN TO' OPTION

In FY 2015, the newly available network referral data provides a less censored picture of referrals for Prime enrollees at NHC New England. In fact, it appears that network referrals make up about 40 percent of total (appointed and un-appointed) referrals. To examine the trend in referrals for Prime enrollees at NHC New England in greater detail, add 'FM' to the crosstab (aiming for the last digit of the 'FY' when dropping the variable into the table). Once the 'FM' is added, the jump in referrals (due to the additional referrals types made available) clearly starts in FY 2015 FM 01. Also, it is important to note that the network referrals lag behind the non-network referrals, as the purchase care claims data have a longer lag time for processing compared to direct care data.

Next, to create a line graph, right click within the table, select 'Turn To', and click on the 'Vertical Mixed Chart' (Figure 8).

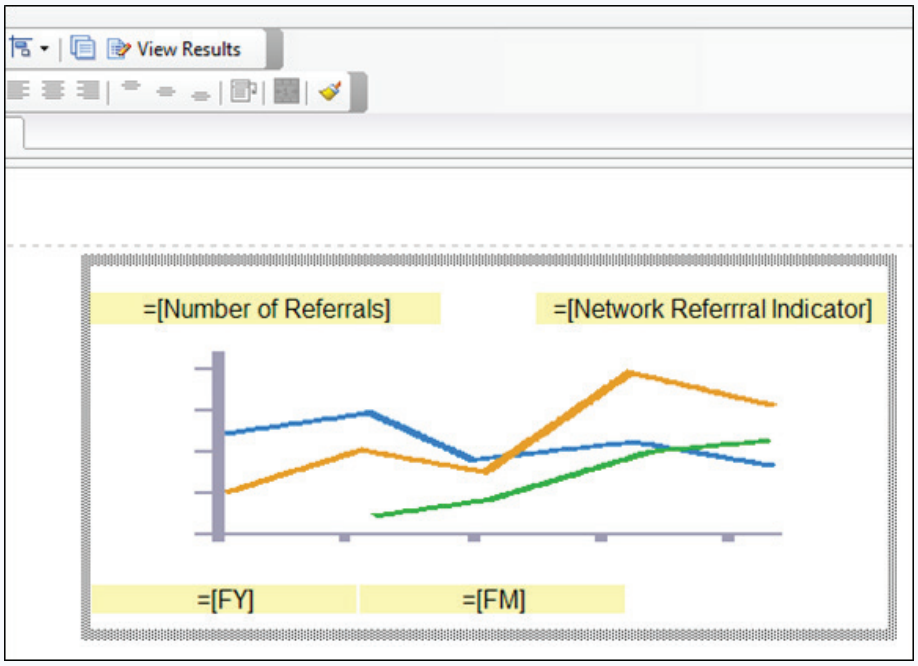
Figure 8. 'Turn To' Option



As can be seen in Figure 8, the data are not correctly displayed. To re-arrange the data in the graph, select 'View Results' in the toolbar at the top, and click and drag the fields until they mirror those in Figure 9. Then, select 'View Results' to revert back to the results.

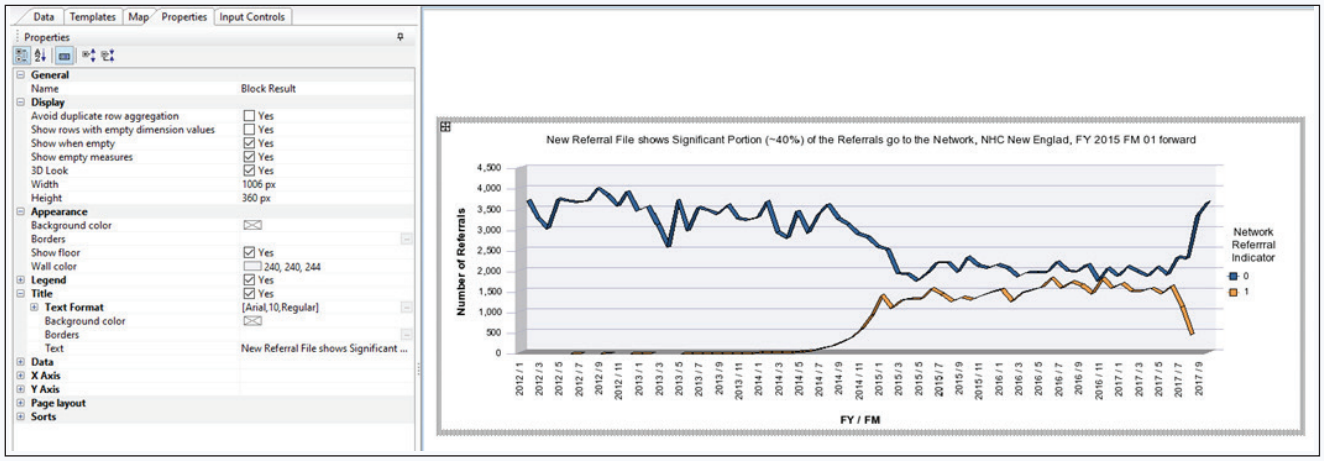
EXAMPLE - 'TURN TO' OPTION

Figure 9. Using 'View Structure' to Re-arrange Data in Graphs



Finally, appearance of the graph can be modified (e.g., color, font, axis) using the 'Properties' tab in the left panel, and legends and titles can be added so that the graph can be self-documenting (Figure 10). The graph in Figure 10 shows the additional data captured by the referral file for NHC New England starting in FY 2015 FM 01, as well as the lag in network referrals shown by the clear drop in the last couple of months in FY 2016.

Figure 10. Enhancing Graph Using the Properties Tab



KNOWLEDGE SOURCES

Below are upcoming conferences for professional growth and development.

February 19-23, 2017:
HIMSS17 Annual Conference & Exhibition
Orlando, FL http://www.himssconference.org/

March 21-22, 2017:
HL7's Partners in Interoperability Conference
Atlanta, GA
http://www.hl7.org/events/interoperability201703/

March 21-23, 2017:
HCSRN's 2017 Health Care Systems Research Network Conference – San Diego, CA
http://www.hcsrnmeeting.org/

April 27-28, 2017:
AcademyHealth's 2017 Health Datapalooza
Washington, DC
http://www.academyhealth.org/events/2017-04/2017-health-datapalooza

April 30-May 3, 2017:
14th Annual World Health Care Congress
Washington, DC
http://www.worldcongress.com/events/HR17000/

May 7-10, 2017:
AAPC's 25th National Conference HEALTHCON2017 – Las Vegas, NV
http://www.healthcon.com/

May 15-17, 2017:
VA Healthcare 2017 – Washington, DC
http://www.veteransaffairshealthcare.com/

May 15-18, 2017:
WEDI's 26th Annual National Conference
Los Angeles, CA
http://www.wedi.org/forms/meeting/MeetingFormPublic/view?id=7B1B90000003C

June 25-27, 2017:
AcademyHealth 2017 Annual Research Meeting
New Orleans, LA
http://www.academyhealth.org/events/site/2017-annual-research-meeting

IN THE NEXT ISSUE

The next issue of *Healthcare Analytics in Navy Medicine* will focus on pain management. The issue will discuss pain management policy and practice in the MHS, as well as considerations for the costs and quality of the services delivered in both the MTFs and purchased care. Additionally, data sources and data issues critical to the analysis of pain management services will be discussed.

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